REMARKS

By this Amendment, claims 1, 4, 10-12, 16 and 19 are amended. Claims 2-3, 5-9, 13-15, 17-18 and 20-24 remain in the application. Thus, claims 1-24 are active in the application. Reexamination and reconsideration of the application are respectfully requested.

Various minor editorial revisions were made to the specification in order to improve its English grammar and U.S. form. No new matter has been added via such revisions.

In item 4 on page 2 of the Office Action, claims 1-24 were rejected under 35 U.S.C. § 102(b) as being anticipated by Young (U.S. 4,706,121). Without intending to acquiesce to the Examiner's rejection of the claims, claims 1, 10 and 16 were each amended to more clearly illustrate the marked differences between the present invention and the applied reference.

In conventional storage-type data receivers, it is know when an updated (revised) version of data previously stored in a data storage is supplied. Therefore, upon each instance of data being received that was previously provided at irregular intervals, the data previously stored in the data storage is overwritten with the data that is repeatedly provided at irregular intervals. Alternatively, the data that is repeatedly provided at irregular intervals is redundantly stored even though the contents thereof are the same as the contents of the data that were previously stored in the data storage. Furthermore, old and useless data is also redundantly accumulated in the data storage. As a result, the storage capacity and power of the data storage are wasted, and the life cycle of the data storage is shortened due the frequency of unnecessary data writing.

Accordingly, an object of the present invention is to solve the above-described problems by providing a storage-type data receiver which minimizes the frequency of data writing to a data storage of the storage-type data receiver for receiving data that is repeatedly distributed from an external data source and that is updated at irregular intervals, and for storing only the latest updated data to the data storage (see line 20 on page 3 to line 14 on page 4 of the specification).

In order to solve the above-described problems of the conventional storage-type data receivers, data updating is data revision by which data is partially changed, but the partially changed data is deemed to be the same data as the data before the revision thereof similar to a case of a book revision where a revised book is considered to be same book even after the

revision. When a book or a software application is revised or updated, the original book or the original software application is replaced by a revised or updated version thereof unless there are some special reasons not to update the original book or the original software application. As described in lines 5-7 on page 3 of the specification, the data updating of the present invention is described in relation to the conventional storage-type data receiver. In particular, "even if the newly-provided data is identical to the one already in the data storage 107, the data already in the data storage 107 is overwritten with the data which is newly-provided but identical thereto." Accordingly, where previously-stored data is replaced with data that is newly-provided but is identical thereto, although the newly-provided data differs in version from the previously-stored data, the newly-provided data is treated as the same data as the previously stored data, such as in the case where a revised book is considered to be the same book even after the book is revised. Therefore, only the latest version of the same data is kept in the data storage of the storage-type data receiver of the present invention (see, for example, line 2 on page 15 to line 22 on page 17 of the specification).

Accordingly, the present invention provides a storage-type data receiver which receives decoded data Dd that is distributed from a data source and that contains data and next-update information Inu indicating when the data is to be next updated. The decoded data Dd that was previously stored in the data storage is overwritten only with a revised version of the decoded data Dd, and therefore, it is possible to minimize the frequency of data writing to the data storage. Thus, the present invention makes it possible to solve the above-described problems of the conventional storage-type data receivers, i.e., the wasting of the storage capacity and power of the data storage as well as the shortening of the life cycle of the data storage.

The present invention, as recited in amended claim 1, achieves the stated object by providing a storage-type data receiver for receiving and storing data being updated at irregular intervals and next-update information indicating when the data will be next revised, where both the data and the next-update information are distributed by a data source. The receiver of amended claim 1 comprises a reception means for receiving the data and the next-update information, and a storage means for storing the data. The receiver of amended claim 1 also

comprises a data update detection means for comparing a current time and a next-update time indicated by the next-update information so as to generate a data update time indication signal indicating whether or not it is time to revise the data. The receiver of amended claim 1 also comprises a data storage control means for controlling storage of the data in the storage means based on the data update time indication signal so as to newly receive data when the data is revised, wherein data previously stored in the storage means is replaced by the newly received data.

The present invention, as recited in amended claim 16, also achieves the stated object by providing a storage-type data receiver for receiving and storing data which is updated at irregular intervals and next-update information indicating when the data will be next revised, where both the data and the next-update information are distributed by a data source. The receiver of amended claim 16 comprises a tuner operable to receive the data and next-update information, and a data storage operable to store the data. The receiver of amended claim 16 also comprises a comparator operable to compare a current time and a next-update time which is indicated by the next-update information to generate a data update time indication signal indicating whether or not it is time to revise the data. Further, the receiver of amended claim 16 also comprises a storage controller operable to control the data storage based on the data update time indication signal so as to newly receive data when the data is revised, wherein data previously stored in the data storage is replaced by the newly received data.

Further, the present invention, as recited in amended claim 10, also achieves the stated object by providing a storage-type data reception method for receiving and storing data being updated at irregular intervals and next-update information indicating when the data will be next revised, where both the data and the next-update information are distributed by a data source. The method of amended claim 10 comprises receiving the data and the next-update information, and storing the data. The method of amended claim 10 also comprises determining whether or not it is time to revise the data after comparing a current time and a next-update time indicated by the next-update information. Further, the method of amended claim 10 comprises effectuating the storing of the data based on the determination made in the determining of whether or not it is

time to update the data so as to newly receive data when the data is revised, wherein data previously stored in the storing of the data is replaced by the newly received data.

Young discloses a TV schedule system and process in which a user selects broadcast programs from schedule information. The TV schedule system of Young allows a user to control a television by selecting broadcasting programs for viewing from the schedule information with user-supplied selection criteria. The schedule information of Young is itself received as a broadcast. The TV schedule system of Young thus controls a television receiver to allow for a user-selection of broadcast programs from the schedule information to control a VCR to be used for the unattended recording of the selected programs. A programmable tuner is connected to receive control signals from a data processor for causing the programmable tuner to supply broadcast signals for the user-selected programs at the time the selected program broadcasts, where the selected program can be either viewed by the user or can be unattendedly recorded by the VCR when the user is not present to watch the desired program (see Column 4, lines 48-53). The schedule information is disclosed as relating to the start time, channels, program services, encrypted programs, and scrambled transmissions.

The Examiner has interpreted the TV programming (see Column 7, lines 66-68), the TV schedule information (Column 6, lines 60-64), a test to see if the system clock is within the scheduled time when a recording event is scheduled (see Column 20, lines 40-43), and a mechanism for automatically turning on the VCR 150 or 216 by a signal on line 154 or 218 to record the program at 506 when the TV is not on (see Column 20, lines 54-64) as the data, the next-update information, the data update detection means, and the data storage control means as recited in claim 1, respectively, or the data, the next-update information, the comparator, and the storage controller as recited in claim 16, respectively.

Young also discloses that a single program is selected from among multiple programs in a series, and the rest of the non-selected programs in the series are automatically included in the series of programs to be recorded by the VCR or to be viewed by the user (see Column 3, lines 34-38, and Column 12, lines 14-24). Further, Young discloses that the series of programs is

automatically terminated when the last program of the series has been completed (see Column 3, lines 39-42).

The TV schedule system of Young uses a number of types of conditions which are specified by the user for the unattended recording of a program. However, in the system of Young, a target for unattended recording/display is a TV program, and thus, the schedule information is associated merely with TV programs. As described above, the data storage device of Young is a VCR 150 or 216, which uses a relatively inexpensive storage medium. The present invention, on the other hand, is provided in part based on the concept of prolonging the life cycle of an expensive recording medium, which is not disclosed or suggested in Young.

Further, as described above, all of the data which is distributed by the data source of the present invention is generally recognized as being the same data except that the data can be a revised version. Accordingly, as described above, only the latest updated version of the data is stored in the storage means of claim 1 or the data storage of claim 16.

However, in the system of Young, of all the broadcast programs, a program specified by the user is selected for unattended recording/display. If programs in a multiple program series or serial shows targeted by the system of Young are considered to correspond to pieces of decoded data that are the same as each other and each program in the multiple program series or serial shows is considered to correspond to an updated version of the decoded data, each program must be considered to be a different episode from the other episode in the same series, instead of the same episode which contains only a partial modification to the previously stored and previously broadcast program, i.e., revised data. In other words, in contrast to the present invention, the system of Young is not provided to revise the same data when the data should be revised according to an update time indication signal, and thus, the system of Young clearly does not distinguish between a program and a revised version of the program.

Accordingly, the system of Young clearly does not disclose or suggest a data update detection means for comparing a current time and a next-update time indicated by the next-update information so as to generate a data update time indication signal indicating whether or not it is time to revise the data, as recited in claim 1. Further, the system of Young also

clearly does not disclose or suggest a comparator operable to compare a current time and a next-update time which is indicated by the next-update information to generate a data update time indication signal indicating whether or not it is time to revise the data, as recited in claim 16. Similarly, the system of Young clearly does not disclose or suggest determining whether or not it is time to revise the data after comparing a current time and a next-update time indicated by the next-update information, as recited in claim 10.

Moreover, as described above, the storage-type data receiver of the present invention prevents the same data as the previously-stored data from being redundantly stored based on the next-update information and the update time indication signal which indicate when the previously stored data is to be revised.

However, Young does not disclose, suggest or contemplate determining whether a program which satisfies the user-specified conditions is the same as a previously-received/recorded program. Instead, Young redundantly receives/records the program which satisfies the user-specified conditions even if the program has been previously received or recorded. The selection of a series of programs is only automatically terminated when the last program of the series has been completed (see Column 3, lines 39-42). For instance, even if the specified conditions are assumed to be associated with data updating and/or programs in a multiple program series are assumed to correspond to pieces of data that are recognized to be the same as each other, each program in the multiple program series will be assumed to correspond to an updated version of the data. However, in the system of Young, if the programs in the same multiple program series are sequentially received/recorded, a previously-broadcast/received program that was recorded to the VCR is replaced with a later-broadcasted/received program. As a result, all of the programs in the same multiple series are received and recorded to the VCR, but only the last broadcasted/received program is stored in the VCR.

Accordingly, the system of Young clearly does not disclose or suggest a data storage control means for controlling storage of the data in the storage means based on the data update time indication signal so as to newly receive data when the data is revised, wherein data previously stored in the storage means is replaced by the newly received data, as recited in claim

1. Further, the system of Young clearly does not disclose or suggest a storage controller operable to control said data storage based on the data update time indication signal so as to newly receive data when the data is revised, wherein data previously stored in said data storage is replaced by the newly received data, as recited in claim 16. Similarly, the system of Young clearly does not disclose or suggest effectuating the storing of the data based on the determination made in the determining of whether or not it is time to update the data so as to newly receive data when the data is revised, wherein data previously stored in the storing of the data is replaced by the newly received data, as recited in claim 10.

Therefore, for the foregoing reasons, Young clearly fails to disclose or suggest each and every limitation of claims 1, 10 and 16. Accordingly, claims 1, 10 and 16 are clearly not anticipated by Young since Young fails to disclose each and every limitation of claims 1, 10 and 16.

Furthermore, because of the clear distinctions discussed above, a person having ordinary skill in the art at the time the invention was made would not have been motivated to modify Young in such a manner as to result in, or otherwise render obvious, the present invention as recited in claims 1, 10 and 16. Therefore, it is submitted that claims 1, 10 and 16, as well as claims 2-9, 11-15 and 17-24 which depend therefrom, are clearly allowable over the prior art as applied by the Examiner.

In view of the foregoing amendments and remarks, it is respectfully submitted that the present application is clearly in condition for allowance. An early notice thereof is respectfully solicited.

If, after reviewing this Amendment, the Examiner feels there are any issues remaining which must be resolved before the application can be passed to issue, it is respectfully requested that the Examiner contact the undersigned by telephone in order to resolve such issues.

A fee and a Petition for a two-month Extension of Time are filed herewith pursuant to 37 CFR § 1.136(a).

Respectfully submitted,

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